

Serial No. 10/044,276Docket No.: 55476US004**Remarks**

Applicants have amended the title substantially as recommended by the Examiner; editorially amended patent application citations in paragraphs 0001, 0030 and 0054; editorially amended the drawing descriptions in paragraphs 0035, 0036 and 0038; amended claims 26 and 42 – 44 substantially as recommended by the Examiner; and amended Drawing Figs. 4 – 13 as requested by the Examiner. Claim 26 has been rewritten in independent form to include all of the applicable limitations of base claim 20 and intervening claim 25. Following entry of this amendment, claims 20 – 44 will be pending in this application with claims 1 – 19 having been withdrawn.

Applicants thank the Examiner for extending to the undersigned attorney the courtesy of a telephonic interview on June 14, 2004, during which the submission of a corrected Drawing containing revised Figs. 4 – 13 was discussed. The corrected Drawing is enclosed.

On February 20, 2004 restriction was telephonically requested from among the following Groups of claims:

- I. Claims 1 – 19 (listed as claims “1-9” in the Office Action but identified as claims 1-19 in the telephonic restriction requirement), drawn to a device, classified in class 118, subclass 110.
  - II. Claims 20 – 44, drawn to a method, classified in class 427, subclass 359.
- Applicants hereby confirm their election of Group II, viz. claims 20 – 44, without traverse.

**Rejection of Claims 26 and 42 - 44 under 35 USC §112**

Claims 26 and 42 – 44 were rejected under 35 USC §112, second paragraph, as being indefinite on grounds that (a) it was unclear whether the speed recited in claim 26 is or is not, in fact varied, and (b) the resolution of the drawing figures referred to in claims 42 – 44 was insufficient to determine the exact boundary of the claimed white region. Claim 26 has been amended to recite that the surface speed differential is varied. Claims 42 – 44 have been amended to recite a dimensionless minimum coating caliper of 0.9 to 1.0, as identified in the legends for the referenced drawing figures. The Office Action commented that “it appears that a mathematical formula was used to derive the plots in the referenced figures”, and suggested that claims reciting such mathematical formula(e) would be less indefinite. Applicants have not made this suggested change. Applicants

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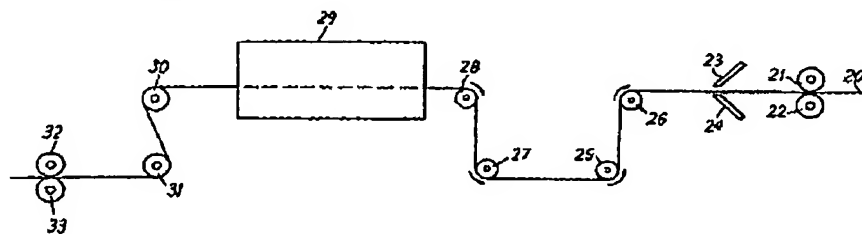
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used a mathematical simulation to derive the plots in the referenced figures. Rather than inserting the simulation calculations into claims 42-46, it is much simpler and more concise to recite a range of dimensionless minimum coating calipers. The phrase "dimensionless minimum caliper" and the associated "dimensionless roll size" and "dimensionless stripe width" parameters are further explained at, e.g., page 8, lines 24 – 30 and page 9, lines 11 – 15.

### Rejection of Claims 20 – 25 and 27 – 44 under 35 USC §103(a)

Claims 20 – 25 and 27 – 44 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 4,102,301 (Reade et al.) in view of U.K. Published Patent Application No. GB 1 293 045 (Swindells). Both Reade et al. and Swindells describe web coating devices for substrates of essentially unlimited length. Reade et al.'s device is shown, for example, in Reade et al.'s Fig. 2, and is used to apply a coating to one or both sides of lay-flat tubular web 20:

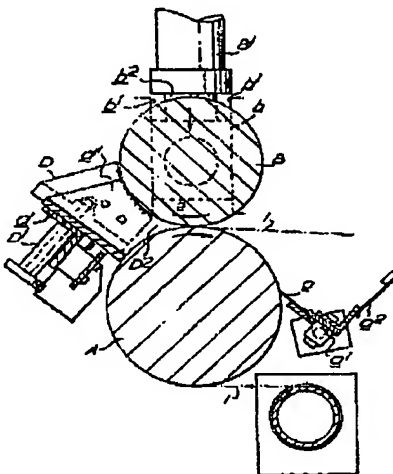
FIG. 2



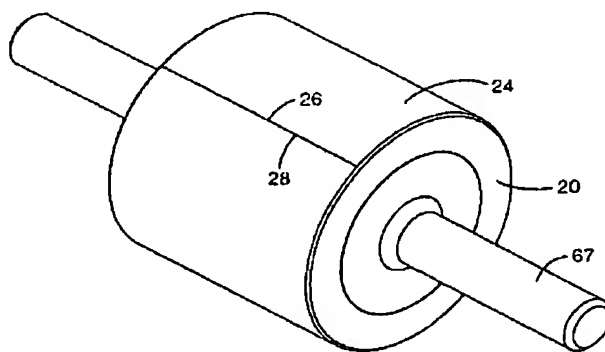
Swindells' device is shown, for example in Swindells' sole drawing figure, and is used to apply a coating to one side of a web I nipped between backing roller A and counter-rotating smoothing roller B:

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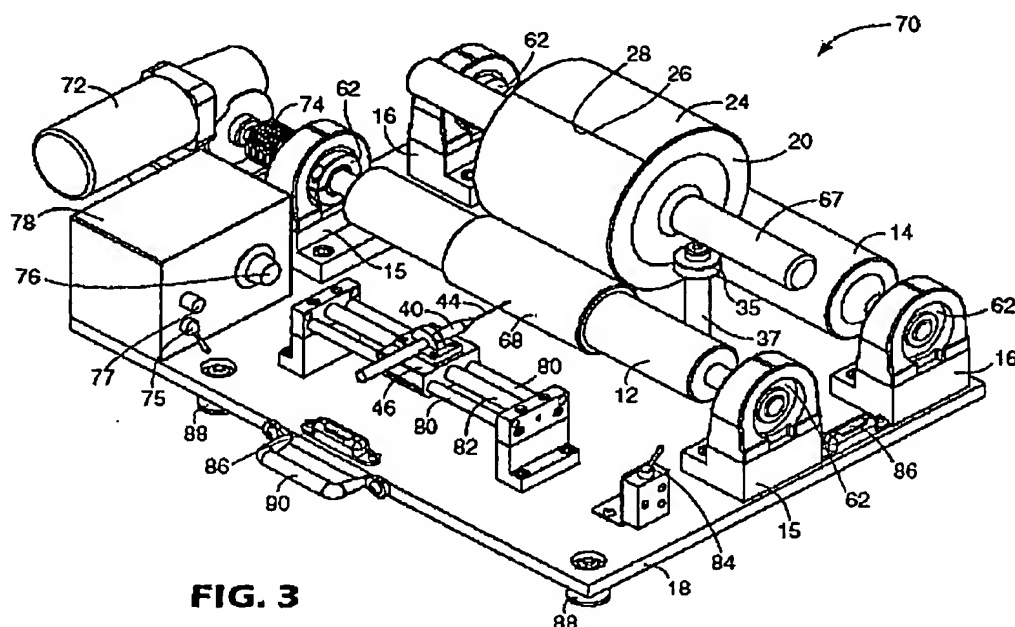
Applicants' claimed method employs a rotating support having a surface at least partially covered with a removable substrate of "limited length". The substrate may be, for example, a sheet 24 wrapped around support roll 20:

**FIG. 2**

The substrate is nipped between the support and at least one pick-and-place roll, a quantity of coating liquid is applied to the substrate or the pick-and-place roll, and the support and substrate are rotated "for a plurality of revolutions whereby wetted surface portions of the pick-and-place roll repeatedly contact the substrate". Applicants' method may be carried out using, for example, the device 70 shown in Fig. 4:

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**FIG. 3**

Applicants' method provides an effective way to apply a thin coating to a single sheet without the setup time, space, equipment and scrap generation that would be needed if such a coating were formed on a web coating apparatus, and with better results for thin coatings than might be achieved using traditional hand spread devices such as a knife coating bed or a Mayer bar (see e.g., paragraphs 0004 and 0005).

As noted in MPEP §2143.03, "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art". Neither Reade et al. nor Swindells teach or suggest coating a "limited length" substrate or rotating such a substrate "for a plurality of revolutions".

Also, as noted in MPEP §2141, "references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination". Reade et al. and Swindells both involve web coaters, not coaters for a substrate of limited length. Reade et al. and Swindells use unwind and takeup devices to move their webs past their coating stations. A person having ordinary skill in the art would not attempt to coat a limited length sheet such as the sheets described by applicants in the Reade et al. or Swindells coaters.

MPEP §2143.01 notes that "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art". If

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Reade et al. and Swindells were combined, at best the result might be a web coating apparatus and method. No proper combination of Reade et al. and Swindells would provide a coater for a substrate of limited length, or a coater that rotated a substrate for a plurality of revolutions.

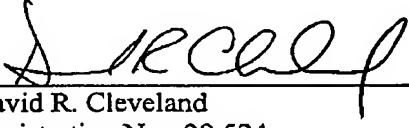
Applicants accordingly request withdrawal of the rejection of claims 20 – 25 and 26 – 44 under 35 USC §103(a) as being unpatentable over Reade et al. in view of Swindells.

### Conclusion

Applicants have made an earnest effort to overcome all objections and rejections asserted in the Office Action. Claim 26 has been amended and rewritten in independent form as recommended and should be allowable. The remaining claims are patentable as is or as amended. Reade et al. and Swindells both involve web coating, not coating a substrate of limited length, and do not show or suggest applicants' claimed method. Applicants accordingly request reconsideration and withdrawal of the rejections and passage of their application to the issue branch.

Respectfully submitted on behalf of  
3M Innovative Properties Company,

June 18, 2004

  
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Enclosed: Replacement Sheets for Drawing Figs. 4 through 13

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